

REMARKS

In the present Office Action, dated June 8, 2005, claims 1-55 are pending in the Application. Claims 15-31 have been withdrawn from consideration and the elected claims, 1-14 and 32-55, have been rejected. Claim 49 has been objected to under 37 C.F.R. § 1.126, the Drawings have been objected to under 37 C.F.R. § 1.83(a), the Specification has been objected to because of informalities, and claims 6-11 have been rejected under 35 U.S.C. § 112, ¶ 1.

Furthermore, the claims have been rejected under 35 U.S.C. § 103(a) in the following manner:

- Claims 1-6, 12-13, 32, 37, 43-44, 49, and 55 have been rejected as unpatentable over U.S. Pat. No. 5,182,669 (Chikuma et al.) in view of U.S. Pat. No. 6,413,607 (Kasada et al.)
- Claim 7 has been rejected as unpatentable over Chikuma et al. in view of Kasada et al. further in view of U.S. Pat. No. 6,792,021 (Suzuki)
- Claim 14 has been rejected as unpatentable over Chikuma et al. in view of Kasada et al. further in view of U.S. Pat. No. 6,288,996 (Siegel)
- Claims 33, 35-36, 45, 47-48 have been rejected as unpatentable over Chikuma et al. in view of Kasada et al. further in view of U.S. Pat. No. 6,091,693 (Morimoto)
- Claims 34 and 46 have been rejected as unpatentable over Chikuma et al. in view of Kasada et al. further in view of U.S. Pat. No. 6,303,473 (Heffernan)
- Claims 38-39 and 50-51 have been rejected as unpatentable over Chikuma et al. in view of Kasada et al. further in view of U.S. Pat. No. 5,093,578 (Appelbaum et al.)
- Claims 40-42 and 52-54 have been rejected as unpatentable over Chikuma et al. in view of Kasada et al. further in view of U.S. Pat. No. 6,522,618 (Feldman et al.)

Applicants note that the Examiner did not reject claims 8-11 under § 103(a) but rather only under § 112, ¶ 1. To the extent that these claims overcome the § 112, ¶ 1 rejection, Applicants consider them allowable subject matter in view of § 103(a).

Applicants thank the Examiner for the thorough examination of the cited references and commentary regarding the presently elected claims. However, the Applicants submit that the elected claims are patentable over the cited art in view of the following remarks.

Priority Claim

The present Application claims priority to Provisional Application, U.S. Ser. No. 60/242,042, filed on October 20, 2000. Applicants ask that the Examiner acknowledge the priority claim back to the Provisional Application.

Claim Objections

Applicants thank the Examiner for noticing that two claim 49s were presented. Applicants are grateful to the Examiner for renumbering one of the claim 49s to claim 48.

Drawings

Replacement drawings have been attached, and additional drawings necessary to show every feature of the invention specified in the claims have been included. Original Fig. 2 was replaced by Fig. 2A, and new Fig. 2B was added, by being inserted between Fig. 2A and Fig. 3.

Specification

First, in the Specification, the number "14" has been deleted from the Specification (paragraph [0034]) and the Drawings, since it refers to the adjective phrase "a rigid polycarbonate layer" modifying the noun "first layer," and thus does not need to be illustrated for structural purposes.

Second, references to "Fig. 2" were changed (in paragraphs [0028], [0033], and [0037]) to "Fig. 2A" and new references (in paragraph [0029]), "Fig. 2B," were added to refer to the new "Fig. 2B" sheet.

Third, in the appropriate paragraphs ([0041], [0044], and [0045]), the number "204" was changed to the number "202" to refer to "a light source" in order to avoid confusion.

Claim Rejections Under § 112, ¶ 1

With regard to the rejection of claims 6-11 on enablement grounds, Applicants note that enabling support for claims 6-11 can be found at least in the following paragraphs: [0011], [0017], [0037], [0039], and [0050] of the Specification.

With regard to enablement, the MPEP, in relevant part, states that:

The purpose of the requirement that the specification describe the invention in such terms that one skilled in the art can make and use the claimed invention is *to ensure that the invention is communicated to the interested public in a meaningful way*. The information contained in the disclosure of an application must be sufficient to inform those skilled in the relevant art how to both make and use the claimed invention. However, to comply with 35 U.S.C. 112, first paragraph, it is not necessary to "enable one of ordinary skill in the art to make and use a perfected, commercially viable embodiment absent a claim limitation to that effect." *CFMT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1338, 68 USPQ2d 1940, 1944 (Fed. Cir. 2003).... *Detailed procedures for making and using the invention may not be necessary if the description of the invention itself is sufficient to permit those skilled in the art to make and use the invention.*

MPEP § 2164 (emphasis added). Applicants submit that claims 6-11 recite the claimed invention in a "meaningful way" at the level of detail recited. Enabling support can be found in the aforementioned paragraphs.

Specifically, claim 6 recites the following:

The storage media of claim 1, wherein the pattern comprises the plurality of holes arranged along a helix beginning near a center of the storage media and extending spirally outward, each successive pass of the helix being separated from a previous pass of the helix by a track pitch.

Applicants submit that any person skilled in the art would know how to make and use a "plurality of holes" "arranged along a helix" "beginning near a center of [a] ... storage media" and "extending spirally outward," where "each successive pass of the helix" is "separated from a previous pass of the helix by a track pitch."

Claim 7 recites the following:

The storage media of claim 6, wherein the plurality of holes are circular and the largest dimension is a diameter of the circular holes, the diameter of the holes being in a range of about 30 to 100 nanometers.

Applicants submit that any person skilled in the art would know how to make and use "the plurality of holes...circular," where "the largest dimension is a diameter of the circular holes," and the diameter of the holes...in a range of about 30 to 100 nanometers."

Claim 8 recites the following:

The storage media of claim 6, wherein a distance between successive holes is in a range of about 30 to 100 nanometers.

Applicants submit that any person skilled in the art would know how to make and use “a distance between successive holes” “in a range of about 30 to 100 nanometers.”

Claim 9 recites the following:

The storage media of claim 6, wherein the track pitch is about 100 nanometers.

Applicants submit that any person skilled in the art would know how to make and use a “track pitch” of “about 100 nanometers.”

Claim 10 recites the following:

The storage media of claim 6, wherein the plurality of holes are circular and the largest dimension is a diameter of the circular holes, the diameter of the holes being about 50 nanometers, a distance between successive holes being about 100 nanometers, and the track pitch being about 100 nanometers.

Applicants submit that any person skilled in the art would know how to make and use a “plurality of holes ... circular,” where “the largest dimension is a diameter of the circular holes,” “the diameter of the holes ... about 50 nanometers,” the “distance between successive holes ... about 100 nanometers,” and “the track pitch ... about 100 nanometers.”

Lastly, claim 11 recites the following:

The storage media of claim 6, wherein the plurality of holes are circular and the largest dimension is a diameter of the circular holes, the diameter of the holes being about 30 nanometers, a distance between successive holes is about 60 nanometers, and the track pitch being about 100 nanometers.

Applicants submit that any person skilled in the art would know how to make and use a “the plurality of holes ... circular,” where “the largest dimension is a diameter of the circular holes,” “the diameter of the holes being about 30 nanometers,” “a distance between successive holes ... about 60 nanometers,” and “the track pitch ... about 100 nanometers.”

However, notwithstanding these enabling descriptions of the claimed invention, the Applicants submit an additional Drawing (new Fig. 2B) in order to even more clearly disclose the invention.

The Applicants also remind the Examiner that according to the MPEP:

In order to make a rejection, the examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention....A specification disclosure which contains a teaching of the manner and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support.

MPEP 2164.04. Applicants submit that an enabling disclosure is provided, at least in paragraphs [0011], [0017], [0037], [0039], and [0050] of the Specification, and that there is no reason to doubt the objective truth of the statements made therein.

Applicants also note that the Examiner's rejection of the claims based on the assertion that "Applicant does not describe how to actually *make* a record medium with specific claimed features..." (emphasis added) is inapposite since the *making* of the claimed subject matter refers to the withdrawn claims (15-31) not the presently elected claims (1-14 and 32-55). However, for completeness, Applicants do note that the making of the claims 6-11 is clearly disclosed in the Specification. For example:

The plurality of holes are preferably formed [i.e. made] by x-ray lithography, by melting material in the second layer, or by ablating material in the second layer

Specification, ¶ 0019. X-ray lithography, melting material, or ablating materials are well known in the art. Thus, the Applicants respectfully request that the Examiner's rejection of claims 6-11 on § 112, ¶ 1 grounds be withdrawn.

Claim Rejections Under § 103(a)

As mentioned above, claims 1-14 and 32-55 have been variously rejected on § 103(a) grounds. Claims 1, 32, and 44 are the independent claims, and all three independent claims have been rejected based on Chikuma et al. in view of Kasada et al.

Claim 1 recites the following:

A storage media for storage of data thereon, the storage media comprising:
a first layer, the first layer being substantially transparent to a predetermined radiant energy used for reading the data; and
a second layer formed on the first layer and being substantially opaque to the radiant energy, the second layer having a pattern comprising a plurality of holes, each of the holes having a largest dimension which is greater than a wavelength of the

radiant energy, the data being stored as the presence or absence of a hole in the pattern.

(emphasis added). The Applicants submit that the emphasized limitation above, namely, “a second layer ... being substantially opaque to the radiant energy, [and] the second layer having a pattern comprising a plurality of holes,” cannot be found in the cited art.

With respect to Chikuma, it discloses a method of manufacturing an optical disk on which light-emitting regions for absorbing a laser beam and emitting light of a wavelength different from that of the laser beam, and reflection regions for reflecting a laser beam irradiated thereon are alternately arranged, comprises the steps of forming a reflection layer on a transparent substrate, forming a plurality of through holes in the reflection layer, and filling a light-emitting layer consisting of a fluorescent member in the through holes, thereby a high density optical disk can be manufactured. *See* Abstract.

In short, whereas the claimed invention teaches a “layer ... being substantially opaque ... [and] having a pattern comprising a plurality of holes” (claim 1), Chikuma discloses “a plurality of holes in the reflection layer” (Abstract). Applicants submit that a “substantially opaque” layer patentably defines over a “reflection layer.”

Independent claims 32 and 44 have been amended only to more clearly recite limitations already found in their respective preambles: “a radiant energy source having an output of radiant energy directed towards the plurality of data holes in the substantially opaque second layer (claim 32); and “directing radiant energy from a radiant energy source towards the plurality of data holes in the substantially opaque second layer” (claim 44). Thus, claims 32 and 44 also patentably define over Chikuma for similar reasons state above.

Kasada et al. was cited by the Examiner as disclosing the limitation of “each of the holes having a largest dimension which is greater than a wavelength of the radiant energy, the data being stored as the presence or absence of a hole in the pattern” (Office Action, pp. 5-6), not the limitation discussed above. Kasada et al., dealing with cyanine dyes, also fails to disclose “a second layer ... being substantially opaque to the radiant energy, [and] the second layer having a pattern comprising a plurality of holes” (claim 1). *See Also* claims 32 and 44.

Inasmuch as claims 2-14, 33-43, and 45-55 depend directly or indirectly from claims 1, 32, and 44, respectively, Applicants submit that they are allowable for at least the same

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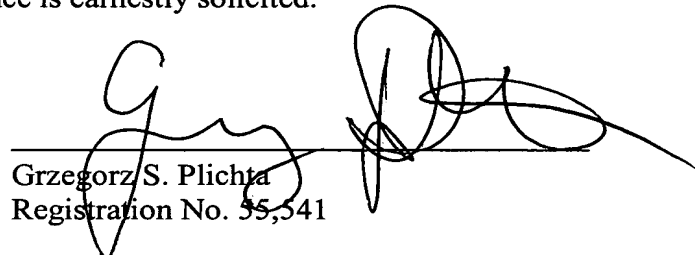
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reasons. Withdrawal of the rejection and allowability of the pending claims is thus earnestly solicited.

CONCLUSION

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Office Action, and submit that claims 1-14 and 32-55 of the Application are in condition for allowance. Favorable consideration and passage to issue of the application at the Examiner's earliest convenience is earnestly solicited.

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Amendments to the Drawings

The attached sheets of drawings includes changes to Fig. 2 (which is now Fig. 2A) and introduces new Fig. 2B. The sheets, which includes Fig. 1, Fig. 2A and 2B, replaces the original sheet including Figs. 1 and 2.

Attachment: Replacement Sheets